Desired Plant Community Definitions

Desired Plant Community for Jeffrey Pine in Dry Creek in the Granite Mountain Management Area and Doe Ridge in the Long Valley Management Area.

Desired plant community for Jeffrey pine: The goal is to maximize wildlife habitat diversity. Jeffrey pine (*Pinus jeffreyi*) density (% canopy/crown cover) would not be reduced from the present level. Insure an average of 1 snag tree per 5 acres with a minimum 16 inch diameter at breast height (DBH) and 30-48 feet tall. Retain in place an average of 2 uncharred class one or class two logs per 5 acres with a minimum size of 21 inch DBH and 20 feet long. Do not disturb or burn any class three, four or five logs. Leave other fallen limb slash in place on at least 25% of the area.

Desired Plant Community for Bristlecone Pine and Limber Pine in the South Inyo Management Area.

Desired plant community for the subalpine forest above 9,000 feet elevation of which the bristlecone pine (*Pinus longaeva*) is the outstanding assemblage species: The goal is to retain the current composition of plant species within the assemblage. The subalpine forest occupies approximately 1,500 acres and occurs at this single site in the resource area. Limber pine (*Pinus flexilis*) shares the overstory. Bristlecone pine would be maintained within the subalpine forest assemblage at $\geq$ 6% of plant composition over the long term. Limber pine would also represent $\geq$ 6% of plant composition over the long term. All dead and down woody material would be left in place. All snag trees (no minimum height) would be left in place.

Desired Plant Community for Sand Dunes in the Owens Lake and South Inyo Management Areas.

Desired plant community for stabilized and partially stabilized desert dunes along the periphery of Owens Lake: The goal is to insure adequate vegetative cover and microclimatic conditions for the Category 2 species *Trigonoscuta owensi*, Owens sand dune snout beetle. Dunes and sand accumulations would be maintained through retention of present vegetative cover which varies from scant cover of widely scattered shrubs and herbs to nearly closed shrub canopies. Plants which predominate in the dune areas and are primarily responsible for stabilization of dune hummocks are spiny saltbush (*Atriplex confertifolia)*, desert holly (*Atriplex hymenelytra*), cattle spinach (*Atriplex polycarpa)*, burro weed (*Franseria dumosa*), black greasewood (*Sarcobatus vermiculatus*), and seep weed (*Suaeda torreyana*). Maintain the current overall vegetative cover of approximately 7% in the dune habitat.

Desired Plant Community for Big Sagebrush/Low Sagebrush/Bitterbrush in the South Inyo Management Area.

Desired plant community description for the big sagebrush (*Artemisia tridentata*)/low sagebrush (*Artemisia arbuscula*)/bitterbrush (*Purshia tridentata*) vegetation type above 8,400 feet elevation: The goal is to maximize vegetative habitat characteristics for management indicator species like mule deer. For those areas with site potential, mule deer habitat characteristics will include hiding cover: vegetation at least 17 inches tall and capable of concealing 90% of a bedded adult deer at 150 feet. Patches of hiding cover would consist of shrubs offering the hiding capability on a minimum of 0.75 acres. Thermal cover requirements, generally, cannot be met for deer in this vegetation type. Fawning habitat should consist of low shrubs $\geq$ 2.0 feet with at least 40% canopy cover and minimum patch size of 0.25 acres. No characteristics are assigned for fawning site understory vegetative cover. Ratios of habitat types within deer range should provide 55% forage area, 35% hiding cover and 10% fawning habitat. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. Where possible, management will seek to maximize cover and vigor of bitterbrush.

Desired Plant Community for Big Sagebrush/Bitterbrush in the Owens Valley Management Area.

Desired plant community description for the big sagebrush (*Artemisia tridentata*)/bitterbrush (*Purshia tridentata*) vegetation type: The goal is to maximize vegetative habitat characteristics for management indicator species like mule deer and tule elk. For those areas with site potential, mule deer habitat characteristics will include hiding cover: vegetation at least 24 inches tall and capable of concealing 90% of a bedded adult deer at 150 feet. Patches of hiding cover should be a minimum of 5 acres in size. Thermal cover would consist of stands of evergreen trees and/or shrubs at least 5 feet tall with a crown cover of $\geq$ 75%. Minimum stand size should be 2 acres with stand width $\geq$ 300 feet. Fawning habitat should consist of low shrubs or small trees $\geq$ 2.2 feet with at least 40% canopy cover and minimum patch size of 1 acre. Fawning site understory vegetative cover should range from 70-90% (along stream riparian and riparian - shrub ecotones). Ratios of habitat types within deer range should provide 55% forage area, 20% hiding cover, 10% thermal cover and 15% fawning habitat. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. Where possible, management will seek to maximize cover and vigor of bitterbrush and perennial grasses.

Vegetation requirements of tule elk are poorly understood for the Owens Valley. However, hiding cover on Bureau lands would likely be adequate for elk where vegetation is at least 40 inches tall and capable of concealing 90% of a bedded elk at 150 feet. Patches of hiding cover should be a minimum of 5 acres in size. Characteristics for thermal cover and fawning habitat are unknown. Vegetation composition on Bureau lands should be maintained west of Highway 395 for its current value as elk forage.

Desired Plant Community for Big Sagebrush/Bitterbrush in the Benton, Granite Mountain, and Coleville Management Areas.

Desired plant community description for the big sagebrush (*Artemisia tridentata*)/bitterbrush (*Purshia tridentata*) vegetation type: The goal is to maximize vegetative habitat characteristics for management indicator species like mule deer and pronghorn. For those areas with site potential, mule deer habitat characteristics will include hiding cover: vegetation at least 24 inches tall and capable of concealing 90% of a bedded adult deer at 150 feet. Patches of hiding cover should be a minimum of 8 acres in size. Thermal cover would consist of stands of evergreen or deciduous trees and shrubs at least 5 feet tall with a crown closure of $\geq$ 75%. Minimum stand size should be 2 acres with a stand width $\geq$ 300 feet. Fawning habitat should consist of low shrubs or small trees $\geq$ 2.2 feet with at least 40% canopy cover, a minimum patch size of 1 to 5 acres, and understory vegetative cover ranging from 70-90% (only along stream riparian and riparian/shrub ecotones). Ratios of habitat types within deer range should provide 55% forage area, 20% hiding cover, 10% thermal cover and 15% fawning habitat. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. In mule deer foraging areas, management will seek to maximize cover and vigor of bitterbrush where possible.

For those areas with site potential, pronghorn vegetative habitat characteristics would include 10-40% grass, 5-15% forbs and 10-45% shrubs by composition with ground cover averaging 50%. Mean vegetation height would be 15 inches. A minimum of 750-1000 lbs/acre of air dried pronghorn forage should be available following livestock turnoff.

Desired Plant Community for Big Sagebrush/Bitterbrush in the Long Valley Management Area.

Desired plant community description for the big sagebrush (*Artemisia tridentata*)/bitterbrush (*Purshia tridentata*) vegetation type: The goal is to maximize vegetative habitat characteristics for sage grouse, a management indicator species. The description applies to the various vegetative components within a 2 mile radius of a strutting ground (lek). The area up to 1 mile from a lek would be managed for 30-40% shrub canopy cover. The area from 1-2 miles from a lek would be managed for 20-50% shrub canopy cover. Within the 2 mile radius, big sagebrush and bitterbrush height would range between 12-14" over 60% of the area with a density of 1 plant for every 4-9 ft^2 and include a grasslike understory of 1 plant per 0.75 ft^2. Preference would be given to sage grouse habitat needs where mule deer and sage grouse habitat overlap.

Desired Plant Community for Big Sagebrush/Bitterbrush in the Bodie Hills and Bridgeport Valley Management Areas.

Desired plant community description for the big sagebrush (*Artemisia tridentata*)/bitterbrush (*Purshia tridentata*) or big sagebrush/bitterbrush/aspen (*Populus tremuloides*) vegetation type: The goal is to maximize vegetative habitat characteristics for management indicator species like sage grouse and mule deer. The DPC will apply to those areas identified as habitat for

sage grouse and mule deer on the GIS resource maps. For sage grouse the description applies to the various components of the vegetation within 2 miles of a strutting ground (lek). Dense brushy areas up to 1 mile from a lek would be managed for 30-40% shrub canopy cover. The area from 1-2 miles from a lek would be managed for 20-50% shrub canopy cover. Within the 2 mile radius, big sagebrush and bitterbrush height would range between 12-14" over 60% of the area with a density of 1 plant for every 4-9 ft^2 and include a grasslike understory of 1 plant per 0.75 ft^2. Preference would be given to sage grouse habitat needs where mule deer and sage grouse habitat overlap. Vegetation outside the 2 mile radius of leks would be managed for near optimal mule deer habitat characteristics to include hiding cover, which would consist of large shrubs and/or trees which offer the hiding capability over a minimum of 0.75 acres, thermal cover, which would consist of saplings or shrubs at least 5 feet tall with 75% or more crown cover, a minimum patch size of 2-5 acres and 300 feet width, and fawning cover, which would consist of low shrubs or small trees from 2-6 feet tall ranging from 70-100% understory vegetative cover, under a tree overstory of approximately 50% crown cover with a minimum patch size of 1-5 acres. The proportion of hiding cover: thermal cover: fawning cover would be approximately 20%: 15%: 5% with the remainder as forage area. Due to edaphic, slope, and aspect conditions, not all habitat within the management area can provide the above vegetative parameters. Those areas which have the capability, will be managed for the described vegetative condition. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. Where possible, management will seek to maximize cover and vigor of bitterbrush.

Desired Plant Community for the Old Growth Fir Community in the Coleville Management Area.

Desired plant community for the red fir (*Abies magnifica*), white fir (*Abies concolor*), Jeffrey pine (*Pinus jeffreyi*) and lodgepole pine (*Pinus murrayana*) which comprise the old growth timber stands: The goal is to maximize habitat for those wildlife species associated with the old growth timber areas and to maintain or improve the current floral characteristics of individual old growth stands. Generally, this will require retaining the current mix of tree species, size/age composition, snag density, log density, understory vegetation composition, species richness, and variety of age classes. Two or more tree species (e.g. red fir and white fir) must be present that provide a full range of tree sizes. Eight or more large (>30 inch diameter) or old (>200 years old) red firs must be present per acre. Intermediate and small size classes may have red fir, white fir or Jeffrey pine as the predominate species for a stand. The canopy would be multilayered. Conifer snags number $\geq$ 1 1/2 snags per acre with dimensions > 20 inch diameter and > 15 feet tall. Logs are present at $\geq$ 10 tons per acre with 2 pieces per acre $\geq$ 24 inch diameter and > 50 feet long. Minimum stand size is 1 acre due to the intact nature of other vegetation types (pinyon/juniper, aspen/shrub, aspen/willow) providing edge influence on the stands. An individual stand may have specific trees (< 100 years old) cut and left in place if a high probability exists for improving habitat conditions for a wildlife species (e.g. pine marten) poorly represented in the old growth areas or for a wildlife guild.

Desired Plant Community for the Section 22 Spring Complex and Springs and Associated Wetlands in the Owens Lake Management Area (Meadows in the Sierra

Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the subalpine zones).

Desired plant community description for the wetland vegetation type located at Section 22 springs and other springs and associated wetlands: The goal is to maximize essential habitat characteristics for migratory and resident bird species. A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. Foliar cover of all plant (non-invader) species on the site would be 80% or greater. At least 4-6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Native shrubs would be nonexistent in the site. Retain the natural vegetation complex in a late seral or potential natural community condition.

Desired Plant Community Description for Springs and Associated Wetlands in the Owens Valley Management Area (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the subalpine zones).

Desired plant community description for springs and associated wetlands: The goal is to maximize essential habitat characteristics for the vertebrate and invertebrate fauna using the site. A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. Foliar cover of all plant (non-invader) species on the site would be 80% or greater. At least 4-6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Trees such as black cottonwood (*Populus trichocarpa*) or willow (*Salix* sp.) would occasionally border or be located within the site. Native shrubs would be nonexistent or found in trace amounts in the site. Restore or retain the natural vegetation complex in a late seral or potential natural community condition.

Desired Plant Community Description for Springs and Associated Wetlands in the Benton Management Area (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the subalpine zones).

Desired plant community description for springs and associated wetlands: The goal is to maximize essential habitat characteristics for the vertebrate and invertebrate fauna using the site. A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. Foliar cover of all plant species on the site would be 80% or greater. At least 4-6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Trees such as black cottonwood (*Populus trichocarpa*) or willow (*Salix* sp.) would occasionally border the site. Native shrubs would be found at < 5% total plant composition in the site or be located only on the capillary fringe of the wet area. Restore or retain the natural vegetation complex in a late seral or potential natural community condition.

Desired Plant Community Description for Springs and Associated Wetlands in the Bodie Hills and Bridgeport Valley Management Areas (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the subalpine zones).

Desired plant community description for springs and associated wetlands: The goal is to maximize essential habitat characteristics for the vertebrate and invertebrate fauna using the site. A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. The vegetation is composed mostly of species in the following genera: *Arnica*, *Carex*, *Eleocharis*, *Hesperochiron*, *Hordeum*, *Potentilla*, *Senecio*, *Ranunculus*, and other native herbaceous plants. Shrubs like big sagebrush (*Artemisia tridentata*), bitterbrush (*Purshia tridentata*), green rabbitbrush (*Chrysothamnus viscidiflorus*) and others would be found in only trace amounts in the site. Foliar cover of all plant species on the site would be 95% or greater. At least 4-6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Trees such as aspen (*Populus tremuloides*), Fremont's cottonwood (*Populus fremontii*) or willow (*Salix* sp.) would occasionally border the site.

Desired Plant Community Description for Springs and Associated Wetlands in the Granite Mountain and Long Valley Management Areas (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the subalpine zones).

Desired plant community description for springs and associated wetlands: The goal is to maximize essential habitat characteristics for the vertebrate and invertebrate fauna using the site. A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site would be dominated by a dense growth of herbaceous monocots. Shrubs common to the Great Basin would be found in only trace amounts on the site. Foliar cover of all herbaceous species on the site would be 95% or greater. At least 4-6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Willow (*Salix* sp.) would occasionally border the site.

Desired Plant Community for Aspen Groves in the Coleville, Bodie Hills and Bridgeport Management Areas.

Desired plant community for aspen (*Populus tremuloides*) groves: The goal is to maximize wildlife habitat diversity. Manage aspen stands at a mid-seral or higher ecological condition with emphasis on improving the aspen age-class structure. Insure a tree size composition of 13% = 12 inches or larger diameter at breast height (DBH), 37% = 10-12 inch DBH, and 50% < 10 inch DBH. Average 3 snag trees/acre with > 10 inch DBH and > 20 feet high. Retain an average of 3 uncharred class 1 or class 2 logs per acre with a minimum size of 12 inches in diameter at the large end and at least 20 feet in length. Cover (the proportion of ground overshadowed by plants $\leq$ 5 feet in height) under the tree canopy would be maintained between

70-100%. The understory vegetative structure would be highly varied, containing at least 4 levels with many types of stem and branch structure. The understory composition is rich, containing a large number (> 14) of species. A variety of age classes in the understory vegetation would be represented.

Desired Plant Community for Riparian Vegetation at Springs in the South Inyo Management Area.

Desired plant community for riparian vegetation at springs: The goal is to maximize forage volume and the diversity of microclimatic features in the site. Ninety percent of the riparian vegetation would be composed of very wet soil adapted plants in vigorous condition. Reproduction of hydrophytes would be evident and proceeding at a rate in the under and overstory to insure maintaining current stand size. Vegetative cover in the site would be 60% or greater. The understory vegetation structure would be highly varied, containing at least 4 levels with many types of stem and branch structure. A variety of vegetation species and age classes would be represented.

Desired Plant Community for Riparian Vegetation Along Streams in the Coleville, Bodie Hills, Bridgeport Valley, Granite Mountain, Long Valley, Benton, Owens Valley and Owens Lake Management Areas.

Desired plant community for riparian vegetation along streams: The goal is to maximize forage volume and the diversity of microclimatic features in the riparian site. Additional goals are retention or improvement of streambank stability and bank morphology. Ninety percent of the site would be composed of very wet soil adapted plants in vigorous condition or by boulders and rubble which do not allow bank erosion. Vegetation overhang within 12 inches of water surface would average 5 inches. Reproduction of hydrophytes would be evident. Upland plants (shrubs) are limited largely to the riparian-upland ecotone or at the stream capillary fringe. Trees (including conifers) shrubs, sedges, rushes, and grasses combined would cover more than 90% of the stream bank away from boulders and rubble. A minimum of 70% of the stream (water column) would be shaded by vegetation. Riparian vegetation growth is vigorous for woody plants and at least 4-6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Reproduction of species in both the under and overstory would proceed at a rate to insure continued ground/bank cover. The understory vegetation structure would be highly varied, containing at least 4 levels with many types of stem and branch structure. A variety of vegetation species and age classes are represented.

NOTE: In the Benton Management Area, Montgomery Creek will not be included under a DPC description due to stream gradient, propensity for flash flooding and the inability to control the natural erosion within the stream channel in an economical manner. Morris Creek is also eliminated from DPC guidelines since much of the water which historically ran in the natural stream channel is now diverted into Nevada, and the remaining water (< 0.5 cfs) is now flowing in a manmade channel.

Desired Plant Community for Pinyon/Juniper in the Coleville, Bodie Hills, Granite Mountain, Benton and South Inyo Management Areas.

Desired plant community description for the pinyon (*Pinus monophylla*)/juniper (*Juniperus* sp.) vegetation type: The goal is to maximize wildlife habitat diversity with an emphasis on mule deer habitat improvement. Dense stands of pinyon or pinyon and juniper which have < 25% understory vegetative cover, a tree crown cover > 20% and an overall stocking rate > 75 trees per acre would receive priority treatment for a change in vegetation composition. The desired stocking rate would be 20 to 40 trees per acre containing an uneven aged mix of trees where at least 40% of stand composition would consist of seed trees (> 100 years old). A minimum of 1/2 of all felled trees would be left in place. Insure an average of 1 snag tree per acre (1 snag tree per 3 acres in South Inyo Management Area) with minimum dimensions of 10 inches DBH and 15 feet in height. Retain in place an average of 2 uncharred class 1 or class 2 logs per acre with minimum dimensions of 12 inch diameter at the large end and 15 feet in length. Class 3, 4 or 5 logs would not be disturbed or burned. Limb slash would be left in place or piled on tree stumps or in the interspaces where little to no shrub or tree production occurs. Invasion of annual cheatgrass (*Bromus* sp.) or other exotic weeds should not occur after stand alteration.